

Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) Each fire station hydrant must have at least 1 length of firehose. Each firehose on the hydrant must have a combination solid stream and water spray firehose nozzle that meets the requirements of subpart 162.027. Firehose nozzles previously approved under subpart 162.027 of this chapter may be retained so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. If the firehose nozzles were previously approved under subpart 162.027, each of the number of hydrants in the locations listed in table 34.10-10(E) must have a low-velocity water spray applicator that—

- (i) Was previously approved under subpart 162.027 of this chapter;
- (ii) Is the length listed in table 34.10-10(E); and
- (iii) Meets § 34.10-10(o).

[CGFR 65-50, 30 FR 16694, Dec. 30, 1965, as amended by CGD 76-086, 44 FR 2391, Jan. 11, 1979; CGD 95-027, 61 FR 25999, May 23, 1996]

Subpart 34.13—Steam Smothering Systems

SOURCE: CGD 95-027, 61 FR 25999, May 23, 1996, unless otherwise noted.

§ 34.13-1 Application—T/ALL.

Steam smothering fire extinguishing systems are not permitted on vessels contracted for on or after January 1, 1962. Previously approved installations may be retained as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

Subpart 34.15—Carbon Dioxide Extinguishing Systems, Details

§ 34.15-1 Application—T/ALL.

(a) Where a carbon dioxide extinguishing system is installed, the provisions of this subpart, with the exception of § 34.15-90, shall apply to all installations contracted for on or after January 1, 1962. Installations contracted for prior to January 1, 1962, shall meet the requirements of § 34.15-90.

(b) The requirements of this subpart are based on a “high pressure system,” i.e., one in which the carbon dioxide is stored in liquid form at atmospheric temperature. Details for “low pressure systems,” i.e., those in which the carbon dioxide is stored in liquid form at a continuously controlled low temperature, may be specifically approved by the Commandant where it is demonstrated that a comparable degree of safety and fire extinguishing ability is achieved.

§ 34.15-5 Quantity, pipe sizes, and discharge rates—T/ALL.

(a) *General.* (1) The amount of carbon dioxide required for each space shall be as determined by paragraphs (b) through (d) of this section.

(b) *Total available supply.* (1) A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(c) *Dry cargo spaces.* (1) The number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space in cubic feet divided by 30.

(2) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of carbon dioxide required, a cargo compartment will be considered as the space between watertight or firescreen bulkheads and from the tank top or lowest deck to the deck head of the uppermost space on which cargo may be carried. If a trunk extends beyond such deck, the trunk volume shall be included. Tonnage openings shall be considered as sealed for this purpose.

(3) Branch lines to the various cargo holds and 'tween decks shall not be less than 3/4-inch standard pipe size.

(4) No specific discharge rate need be applied to such systems.

(d) *Machinery spaces, pumprooms, paint lockers, and similar spaces.* (1) Except as provided in paragraph (d)(4) of this section, the number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 34.15-5(d)(1). If fuel can drain from the compartment

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being protected to an adjacent compartment, or if the compartments are not entirely separate, the requirements for both compartments shall be used to determine the amount of carbon dioxide to be provided. The carbon dioxide shall be arranged to discharge into both such compartments simultaneously.

TABLE 34.15-5(d)(1)

Gross volume of compartment, cubic feet		Factor
Over	Not Over	
	500	15
500	1,600	16
1,600	4,500	18
4,000	50,000	20
50,000	22

(2) For the purpose of the above requirement of this paragraph, the volume of a machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion propelling machinery, or fuel oil installations subject to the discharge pressure of the fuel oil service pump extend into such space, in which case the volume shall be taken to the top of the casing or the next material reduction in casing area, whichever is lower. The terms “normal machinery casing” and “material reduction in casing area” shall be defined as follows:

(i) By “normal machinery casing” shall be meant a casing the area of which is not more than 40 percent of the maximum area of the machinery space.

(ii) By “material reduction in casing area” shall be meant a reduction to at least 40 percent of the casing area.

(3) For the purpose of the above requirements of this paragraph, the volume of a pumproom shall include the pumproom and all associated trunks up to the deck at which access from the weather is provided.

(4) For tankships on an international voyage contracted for on or after May 26, 1965, the amount of carbon dioxide required for a space containing propulsion boilers or internal combustion propulsion machinery shall be as given by paragraphs (d) (1) and (2) of this section or by dividing the entire volume,

including the casing, by a factor of 25, whichever is the larger.

(5) Branch lines in the various spaces shall be noted in Table 34.15-5(d)(5).

TABLE 34.15-5(d)(5)

Maximum quantity of carbon dioxide required, pounds	Minimum pipe sizes, inches	Maximum quantity of carbon dioxide required, pounds	Minimum pipe size inches
100	1/2	2,500	2 1/2
225	3/4	4,450	3
300	1	7,100	3 1/2
600	1 1/4	10,450	4
1,000	1 1/2	15,000	4 1/2
2,450	2

(6) Distribution piping within the space shall be proportioned from the supply line to give proper distribution to the outlets without throttling.

(7) The number, type and location of discharge outlets shall be such as to give a uniform distribution throughout the space.

(8) The total area of all discharge outlets shall not exceed 85 percent nor be less than 35 percent of the nominal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area in square inches shall be determined by multiplying the factor 0.0022 by the number of pounds of carbon dioxide required, except that in no case shall this outlet area be less than 0.110 square inches.

(9) The discharge of at least 85 percent of the required amount of carbon dioxide shall be complete within 2 minutes.

[CGFR 65-50, 30 FR 16694, Dec. 30, 1965, as amended at 45 FR 64188, Sept. 29, 1980; CGD 95-028, 62 FR 51199, Sept. 30, 1997; USCG-1999-6216, 64 FR 53223, Oct. 1, 1999]

§ 34.15-10 Controls—T/ALL.

(a) Except as noted in § 34.15-20(b), all controls and valves for the operation of the system shall be outside the space protected, and shall not be located in any space that might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) If the same cylinders are used to protect more than one space, a manifold with normally closed stop valves shall be used to direct the carbon dioxide into the proper space. If cylinders are used to protect only one space, a